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AUTHOR Armbruster, Bonnie B.; And Others

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ABSTRACT

The lack of systematic instruction in understanding and answering questions prompted the development of a taxonomy of 300 American history questions sampled from four current and commonly used intermediate grade lavel history textbooks. Each category of tha classification includes a description of the information the question type provides the respondent and the information required in the response. The description is followed by a few representative questions in the interrogative form and a description also includes a target question, an excerpt of text that contains information needed to answer the question, a general format for answers to the question type, and an instantiation of the general format with the answer to the target question. Categories of question types include time, location, quantity, name, concept identification, explanation, description, and comparison. The taxonomy is followed by discussions on the profile of question types; tha difficulty of answering quastions; lexical, syntactic, and logical structures in questions; the complexity of the concepts contained in questions; the complexity of the relationships linking concepts; the availability of answers in test materials; textual clarity; requirements for answering questions; and student characteristics. (HOD)

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Technical Report No. 308

WHAT DID YOU MEAN BY THAT QUESTION?: A TAXONOMY OF AMERICAN HISTORY QUESTIONS

Bonnie B. Armbruster, Thomas H. Anderson University of Illinois at Urbana-Champaign Roger H. Bruning University of Nebraska Linda A. Meyer University of Illinois at Urbana-Champaign January, 1984

University of Illinois at Urbana-Champaign 51 Gerty Drive Champaign, Illinois 61820

Bolt Beranek and Newman Inc. 10 Moulton Street Cambridge, Massachusetts 02238

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What Did You Mean By That Question?:

A Taxonomy of American History Questions

The purpose of this report is to present a taxonomy of history questions—the type of questions that middle school students are expected to answer when they study their textbooks. The paper describes the raxonomy, illustrates the classification scheme with over 300 questions sampled from history textbooks, and discusses some implications of the taxonomy.

Why a Taxonomy of History Questions?

Students are required to answer an astonishing number of questions in school. Questions are used to instruct as well as to evaluate. Many teachers depend on oral questioning as a major form of classroom instruction. Teachers may also provide students with "study guides" to help them learn from reading; these "study guides" may have 40 or more questions on them (Durkin, 1978-79). Of course, the textbooks themselves are replete with questions—before chapters, at the end of chapters, and embedded within the text. It is not uncommon to find 80 or more questions in a 20-page section of a textbook. Finally, students have to answer questions on tests—classroom tests designed by the teacher or provided by the publisher as well as the all-important stendardized tests that are critical in determining a student's future.

Despite the prevalence and importance of questions in education, students receive little, if any, instruction in



answering questions. That is, students are typically not taught how to (a) analyze what a question is asking, (b) find relevant information in the text, and (c) write an answer to the question, particularly an answer that is longer than a word or phrase. For example, we have not seen any instruction in reading or language arts programs that teaches the important distinction between questions that ask students to identify causes (Why questions) and questions that ask for a description of the processes by which events have unfolded (How questions).

The lack of systematic instruction in understanding and answering questions prompted the development of this taxonomy. We think teachers and publishers need to know what types of questions exist and the cognitive demands of answering those questions before they can make reasonable decisions about how to teach students about questions and how to use questions in the classroom and in instructional materials.

So far we have explained why we developed a taxonomy of questions; however, we have not explained why that taxonomy is peculiar to history. Fundamental to our work is the assumption that each content area or discipline has its own unique structure. The structure is reflected in the type of questions asked within that content area and the organization of answers to those questions. We think the "uniqueness" of history questions as particularly evident in the important category of questions asking for explanations. Phenomena are explained differently in history than they are in the natural sciences. Because we



believe this difference has pedagogical implications, we have tried to capture the difference in our taxonomy.

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The Development of the Taxonomy

A fundamental principle of our taxonomy is that questions should be classified according to the type and structure of information required in the response rather than according to the surface characteristics of the questions itself, such as whether it begins with a Who versus s What. As we discovered in developing the taxonomy, the interrogative words Who, What, When, Where, Why, and How are not always reliable indicators of response requirements. For example, consider two questions beginning with Who: "Who were the explorers that first explored the Louisians Purchase?" and "Who were the Mormons?" The first question simply requires the names Lewis and Clark, while the second could require a description of the major characteristics, purposes, accomplishments, and leaders of a group of people, the Mormons. Therefore, most categories of our taxonomy include questions that, taken at face value, look quite different; however, we are convinced that the answers to the questions in sny given category of the taxonomy would assume a similar structure. Thus, our taxonomy is really a taxonomy of answer types as much as of question types.

The taxonomy was constructed in two stages. In the first stage we searched six intermediate-level history textbooks for a variety of question types. For example, we tried to find



questions from all of the Wh- and How categories, and we looked for other unexpected types. This effort yielded about 200 items that we used to produce our first approximation of a workable taxonomy.

The second stage began with a systematic sampling of over 300 items from four current and commonly used intermediate-level history textbooks. This pool of items was categorized using our first taxonomy. Needless to say, parts of our original taxonomy did not work very well, and we had to change it. Finally, we were able to reach consensus about the newest conceptualization of categories; this revised taxonomy is what we present in this report.

The next section of the report presents the taxonomy itself. The section begins with an outline of the taxonomy. The outline is provided for the reader's convenience, since the taxonomy description is rather cumbersome, particularly in the category of Explanation questions. The description of each category is organized as follows. First, the category is defined by describing what information the question type provides the respondent and what information is required in the response. The definition is followed by a few representative questions in the interrogative form and a description of corresponding importative forms. For most categories in the taxonomy, the description also includes a target question, an excerpt of text that contains information needed to answer the question, a general format for answers to the question type, and an instantiation of the general



A Taxonomy of American History Questions 6

format with the answer to the target question. We turn now to a description of the taxonomy.



A TAXONOMY OF QUESTIONS

I. Time: When?

II. Location: Where?

III. Quantity: How many?, Bow much?

IV. Name: Who?, Whose?

- A. States a trait or salient characteristic of a person or group and asks for the name
- B. Asks for the total set of people or groups within the category stated in the question
- C. Asks for a subset of people or groups within the category stated in the questing

V. Concept Identification: What?, Which?

- A. States a characteristic of a concept or thing and asks for its name
- B. Asks for the total set of concepts or things within the category stated in the question
- C. Asks for a subset of the concept or thing within the category stated in the queation

VI. Explanation: Why?, How?

- A. States an effect and asks about the cause,
 - When the causes are goals,
 - s. Why-Action?
 - b. Why-Conflict?
 - c. Why-Reaction?
 - When the causes are <u>conditions</u>: Why-Effect?
 - When the causes are <u>processes</u> or <u>examples</u> of <u>sctions</u>,
 - a. How-Effect-Processes?
 - . How-Effect-Zuamples?
- B. States a cause and asks about the effects,
 - 1. What-Effects?
 - 2. Why-Importance of Cause?
- Asks for an elaboration of a causal connection between a specified <u>cause</u> and <u>effect</u>: **Sow** Did A Affect B?

VII. Description: What is? Who is?

VIII. Comparison:

- A. Compare/Contrast
- B. How Did X Change?



DESCRIPTION OF THE TAXONOMY

I. Time: When?

When questions ask for the time that an event occurred.

Examples of When questions are:

- (1) When did the Japanese attack Pearl Harbor?
- (2) When was the 18th Amendment passed?
- (3) When did "talking pictures" replace silent films? The first question probably requires fairly specific information (day and year, maybe even time of day) for the answer; the second question probably only requires the year, and the third question may only require a period of time (e.g. "by the end of the 1920's"). The student's task is to find the "time" information in the text associated with the event stated in the question. The specificity of time given in the answer should probably match the specificity given in the textbook. The student would probably construct an answer in the form:

EVENT proposition, preposition, time.

ot

Preposition, time, EVENT proposition.

For example,

- (1) The Japanese attacked Pearl Harbor on Sunday morning, December 7, 1941.
- (2) On Sunday morning, December 7, 1941, the Japanese attacked Pearl Harbor.



II. Location: Where?

Where questions ask for the <u>location</u> of the occurrence of an event.

Examples of Where questions are:

- (1) Where was the first of New England's textile mills built?
- (2) Where besides Pearl Harbor did the Jepanese attack on December 7, 1941?

As with When questions, the specificity of information required in the response varies but should probably match the specificity given in the textbook. The students' task is to find the "location" information in the text associated with the event given in the question end construct en answer having the following form:

EVENT Proposition, Preposition, location

For example,

The first of New England's textile mills was built in Rhode Island.

How many How much questions ask for quantitative information: number, distance, time, cost, height, weight, etc.

Examples of this category of questions include:

- (1) Now many major laws were passed during Roosevelt's first 100 days in office?
- (2) How much did the United States pay for Louisiana?
- (3) For how long was John Marshall Chief Justice of the Supreme Court?



The atudenta' task is to decide the type of quantitative information required, to find the required information in that text, and to construct an answer. The form of the answer will vary depending on the type of quantitative information required. For How much questions, the form is usually:

Proposition, quantity

For example,

- (1) The United States paid \$15 million for Louisians.
- (2) John Marshall was Chief Justice of the Supreme Court for 34 years.

IV. Name: Who? Whose? Questions

Who questions request the <u>name</u> of a person or group.

Included in this caregory are Whosa questions. We recognize three aubcategories of Who questions:

- (A) Questions that state a trait or aslient characteristic of a person or group and ask for the name. For example,
 - (1) Who won at Trenton?
 - (2) Who called for a convention?
- (3) Whose notes tell us what went on in the convention? The students' telk is to find the name of the individual or group associated with the given descriptor. The answers to this type of Who question could take the simple form of substituting the name for the Who or Whose in the question stem. For example,
 - (1) Alexander Hamilton called for a new convention.
 - (2) James Madison's notes tell us what went on 'n the convention.



- (B) Questions that ask for all examples, or the total set of people or groups within the category of people or groups stated in the question. Examples of the interrogative form of this type of question are:
 - (i) Who were the candidates for President in the election of 1848?
 - (2) Who were the leaders in the Battle of Fallen Timbers?
 - (3) Who were the Axis Powers?

The use of the definite article "the" before the category to be exemplified (e.g., the candidates; the leaders; the Axis Powers) is the clue that the question is asking for all people or groups within the category (or at least all people or groups given in the accompanying text). Common imperative forms of this question type are:

- (1) Name the category
- (2) List the category

The students' task is to locate the category in the text and then find all names associated with that category. Then students would have to answer the question using one of the following two structures:

, are/were the CATEGOR	Υ.
The CATEGORY are/were,	• •

For example,

- (i) Germany, Italy, and Japan were the Axis Powers.
- (2) The Axis Powers were Germany, Italy, and Japan.



- (C) Questions that ask for some examples or the total set of people or groups within the category of people or groups stated in the question. Examples of this type of question in the interrogative form are:
 - (1) Who were three of the "best and brightest?" people Kennedy named to his cabinet?
 - (2) Who were some important explorers of the West in the early 1800's?

Unlike Who questions that ask for all examples, this type of Who question requires the student to select from the total set of possible examples of the concept. The some examples question may specify the number of examples to be included in the answer, such as (a) above. Other times, the question leaves the number of examples to be included up to the student, as in (b) above. As with all examples questions, common imperative forms are:

- (1) Name (some/specific number of) CATEGORY
- (2) List (some/specific number of) CATEGORY

To answer these questions, students have to locate the category in the text, identify the set of examples of the category, and decide which examples to include in the answer. Finally, students would have to answer the question using something like the following general structure:

(Some/specific number	of) CATEGORY	are/were _	,	٠٠٠٠ س
,,	are/were (son	me/specific	number of)	CATEGORY.



For example,

- (1) Three of the 'best and brightest' people Kennedy named to his cabinet were Robert HcNamara, Arthur Goldberg, and Robert Kennedy.
- (2) Robert HcNamara, Arthur Goldberg, and Robert Kennedy were three of the 'best and brightest' people Kennedy named to his cabinet.

V. Concept Identification: What? (Which?)

The broad category of What (Which) questions requests information about all manner of "concepts" not included in the other four question categories. These questions are divided into three subcategories: Questions that

- (a) state a characteristic of the concept and ask for its name.
- (b) ask for <u>all</u> examples or all parts of the category given in the question, and
- (c) ask for <u>some</u> examples or parts of the category.

 Each of these subcategories will be described in turn.
- (A) Questions that state a characteristic of the concept and ask for its name. For example,
 - (1) What state was admitted as a free state in 1850?
 - (2) What "waste product" made the oil business more profitable?

The students' task is to find the name of the thing associated with the given descriptor. The answers to this type of question take the simple form of substituting the name for the What (or Which) in the question stem; for example,

California was admitted as a free state in 1850.



- (B) Questions that ask for <u>all</u> examples or all parts of the category given in the question. Examples of the interrogative forms of this question type are:
 - (1) What ideas did Marcus Garvey make popular among black people?
 - (2) What were the provisions of the Clayton Antitrust Act?
 - (3) In what cities did political bosses hold power in the late 1800's and early 1900's?

Note that this type of What question has two kinds of structure:

(a) "What" or "Which" followed directly by the concept to be identified (What ideas), or (b) the use of the definite article "the" before the concept to be identified (What were the provisions?). Common imperative forms of the question are:

- (1) Name the Category(ies).
- (2) List the Category(ies).

The students' task is to locate the category in the text and then find all examples or parta associated with the category.

Then students would probably use the following construction to answer the question.

CATEGORY	are/wete	,	,	etc.

For example,

In the late 1800's and early 1900's, political bosses held power in New York, Chicago, Minneapolis, Kansas City, Philadelphia, and San Francisco."

(C) Questions that ask for some examples or parts of the category.



Examples of the interrogative forms of this type of What question are:

- (1) What were some Utopian communities?
- (2) What are three cities which have elected black mayors?

The questions either ask for an unspecified number of examples ("some") or designate a specific number to be included in the answer. Common imperative forms that ask for some examples or parts, are:

- (1) Name (some/specific number) of CATEGORY.
- (2) List (some/specific number) of CATEGORY. For example,
 - (1) Name three cities which have elected black mayors.
 - (2) List some Utopian communities.

To answer these questions, students have to locate the category in the text, identify the set of examples of the category, and decide which examples to include in the answer. Finally, students would have to answer the question using something like the following general structures:

(Some/specific number) of the CATEGORY sre/were	,
or	
,, are/were CATEGORY.	

For example,

Some Utopian communities are Brook Farm, New Harmony, and the Amana Community.



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Gary, Indians; Cleveland, Ohio; and Los Angeles, California are three cities which have elected black mayors.

VI. Explanation: Why? How?

Our analysis of Explanation questions is based on a very simple cause-effect model as depicted in the following diagram.



Explanation questions seem to be of three major types: Questions that give an Effect and ask about the Cause(s); questions that give a Cause and ask about the Effect(s); and questions that ask for an elaboration of the causal connection between a specified Cause and Effect.

A. States an Effect and Asks about the Cause

By far the most common type of Explanation question in social studies textbooks asks why or how a given event or outcome took place.

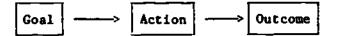


We have identified three subcategories of this type of question. These subcategories reflect three conditions: (1) when the causes are goals or motives, (2) when the causes are events or conditions, and (3) when the causes are processes or examples of processes. These subcategories of explanation questions are described below.



1. When the causes are goals. This type of question states an Effect produced or initiated by an individual or group and asks for a Cause which is a goal, purpose, motive, or intention of the individual or group. We base our analysis of this type of question on the concept of the "frame," or generic structure.

According to Armbruster and Anderson (1982), explanations of many historical events have a generic structure consisting of three causally related categories of information:



The Goal is the desired state sought by the individual or group; the Action is the overt behavior engaged in by the party in order to accomplish the Goal; and the Outcome is the consequence of the Action. For our purposes, we consider the Action and/or Outcome to be the Effect asserted in the question, and the Goal to be the Cause required in the answer.

When the causes are goals, we have identified three additional subcategories: Why-Action questions, Why-Conflict questions, and Why-Reaction questions.

a. Why-Action questions. Why-Action questions state an Effect in the form of an Action taken by an individual or group and ask for a Cause in the form of a Goal that motivated the individual or group to act as they did. The question identifies the Action and the party initiating the Action and asks for Goals or intentions.



Cause

required in answer: given in question:

Goal → Action → Outcome

Some examples of Why-Action questions are:

- (1) Why did the Nez Perce leave Oregon?
- (2) Why did the British become more strict about enforcing the trade laws after 1763?

The most common imperative form of this question is "Explain why ACTION occurred."

An example of Why-Action question, text, answer. The question, "Why did the British become more strict about enforcing the trade laws after 1763?" might accompany the following text:

For many years, England had placed taxes on goods that were shipped into the colonies. For instance, there was a tax on molasses, which the colonists bought from the West Indies. These tax measures were called trade laws, because they controlled American foreign trade. In the early days, the British were not too strict about carrying out these laws. For instance, they pretended not to see shipments of molasses arriving at American docks. They let the molasses go through without taxing it.

But after 1763, the picture changed. The British needed money. They became more strict about the trade laws and also taxed the colonies in other ways. The Stamp Act taxed almost every kind of printed matter (Branson, p. 92)

To answer the question, students have to recognize that the question contains information about an action (becoming more strict about enforcing the trade laws) initiated by a group (the British) and asks for an explanation of why the action took place. Students then have to find the relevant text by locating



the same action mentioned in the question ("They became more strict about the trade laws"). Next, they have to connect the effect with the appropriate cause or goal, "The British needed money." Note that for this text, students have to make the causal inference, since it is not stated explicitly in the text. Finally, students have to construct an answer with the following (minimal) general structure:

Action because Goal.

For the sample question and text, the answer might be,

The British became more strict about enforcing the trade laws after 1763 because they needed money.

Of course, a "better," more thorough answer would go on to elaborate the ways that enforcing trade laws would help the British attain their goal.

The next two subcategories of questions that have Goals as Causes are more complex because they usually require an analysis of the Goals of two (or even more) parties.

b. Why-Conflict questions. This type of question includes information about an Outcome involving conflict (or sometimes cooperation) between two or more individuals or groups and asks for the reasons for the conflict. In explaining a conflict, one usually has to show how the Actions or intended Actions of one party (Party 1) interfered with, or would interfere with, the Goal(s) of another party (Party 2).



Examples of Why-Conflict questions in the interrogative form are the following:

- (1) Why was there trouble between the Indians and the colonists?
- (2) Why did the French side with the colonists against the British?

An alternate interrogative form of Why-Conflict questions is, "What were the (causes of/reasons for) CONFLICT." Imperative forms include:

- (1) (Explain/tell) why CONFLICT occurred.
- (2) (State/give the causes of/reasons for) CONFLICT X.

An example of Why-Conflict question, text, and answer. The question, "Why was there trouble between the Indians and the colonists?" might accompany the following text:

The Wampanoag, Massasoit's tribe, were friendly to the colonists as long as Massasoit lived. But the peace ended after he died. His son Metacom, whom the colonists called King Phillip, began to talk of war in the Indian councils.

The Indians in New England had given much land to the European colonists, and the colonists had taken over other land. King Philip felt that the Indians would lose all their homelands if they did not fight together and defeat all the colonists

Finally, King Philip got most of the region's tribes to attack the colonists. A terrible war followed. Before it was over, 2,000 white persons and more than 6,000 Indians were killed. (Gross, Follett, Gabler, Buron, Ahlschwede, 1980, p. 125)

To answer the question from the text, studencs first have to realize that the question contains information about conflict ("trouble between the Indians and the colonists") and asks for the cause of the conflict. Then students have to locate an



Action by one party that interfered with the Goal(s) of another party—in this case, how an Action taken by the colonists (taking over the Indian's homeland) interfered with, or would interfere with, the Goal of the Indians (wanting to keep their homelands). As is often the case, the Goal needs to be inferred. Frequently, Goals are implicit in statements of projected Outcomes—that is, Gutcomes that would occur if the conflict did not resolve the problem. In this text, the Goal is implicit in the sentence, "King Philip felt that the Indians would lose all their homelands if they did not fight together and defeat all the colonists."

Then students have to construct an answer usi—g something like the following general structure:

CONFLICT because Action of Party 1, which interfered with Goal of party 2.

For the sample question and text, the answer might be:

There was trouble between the Indians and the colonists because the colonists were taking over the Indians' homeland, which the Indians wanted to keep.

c. Why-Reaction questions. This type of question contains an assertion about an emotional reaction of one party (Party 1) to an Action, usually of a second party (Party 2) and asks for an explanation of the emotional reaction. The emotional reaction could be either negative (e.g., anger, resentment, disapproval), or positive (e.g., happiness, pleasure, approval). Question 1



below is a Why-Reaction question with a negative emotion while Question 2 is a Why-Reaction question with a positive emotion.

- (1) Why were the colonists so angry about the Stamp Act?
- (2) Why did Americans approve of Pinckney's Treaty?

Why-Reaction questions with negative emotion are similar to Why-Conflict questions and would be answered about the same way. That is, one usually would have to show that the Action of one party interfered with, or would interfere with, the Goals(s) of another party. To answer Why-Reaction questions with a positive emotion one would usually have to show that the Action was consistent with the goals of the party having the emotional reaction.

Occasionally, Why-Reaction questions with a positive emotion will not require an explanation involving the interaction of two parties; the reaction is to their own Actions. This is the case, for instance, in the question, "Why did the Americans feel proud and happy about themselves in 1763?" Most Why-Reaction questions with a positive emotion, however, involve two parties.

An example of a Why-Reaction question, text, and answer.

Because Why-Reaction questions with a negative emotion are very aimilar to Why-Conflict questions, we will illustrate instead a Why-Reaction question with a positive emotion.

The question "Why did Americans approve of Pinckney's treaty?" might accompany the following text:



In 1795, Pinckney's Treaty settled boundary disputes between Spain and the United States. It also gave Americans the right to use the Mississippi River fresly. They could also use New Orleans for storing and shipping goods. This could be done without paying a tariff to Spain. This right was called the "right of deposit. Pinckney's treaty was hailed by all Americans." (Abramowitz, 1979, p. 207)

To complete the task, students would have to recognize that the question is asking about a positive emotional reaction (approval) to an Action (Pinckney's Treaty). Then students have to find the relevant part of the text by recognizing the reference to Pinckney's Treaty and that "approval" is the same as "Pinckney's treaty was hailed by all Americans." Next, atudents would have to identify the Goal(s) of the Americans, which once again can be inferred from the Outcomes of the Treaty (settling houndary disputes, giving right to use the Missiasippi River freely, and using New Orleans for storing and shipping goods) but which should also be retrievable from an sarlier section of the text. Finally, students would have to construct an answer using something like the following general atructure:

KEACTION to ACTION because ACTION resulted in Outcomes which met Goal.

For our sample question and text, the response might be:

Americans approved of Pinckney's Treaty because the Treaty settled boundary disputes and gave Americans several economic advantages, which they had been seeking for some time.



- 2. When the Causes are Conditions: Why Effect Questions.

 The second major subcategory of questions that state an Effect and ask about the Cause is a very broad category. It includes questions requiring any type of Cause that does not involve goals. Motives, purposes, or intentions of human actors, at least not directly. Such Causes may be sets of conditions that are specific instances of laws or principles (especially of economics), or they may be any other set of facts that is considered to be a reasonable "explanation" of a phenonumenon in the domain of social studies. So we examples of this type of question in the interrogative form are:
 - (1) Why did the stockmarket crash in 1929?
 - (2) What led to the end of the open range and the cattle frontier?
 - (3) Why did New Harmony and Brook Farm fail?
 - (4) What caused new farm problems after World War I?

Imperative forms include:

- (1) (Explain/tell) why Effect X occurred.
- (2) Give the (causes/reasons) for Effect X.

An example of Why-Effect question, text and answer. The question, "What caused new farm problems after World War I?" might accompany the following text:

Surplus farm production was only one part of the growing farm problem. Another problem came from overexpanding farmland during World War I. In the years between 1914 and 1918, farmers received high prices for their crops. As a result, many farmers bought additional land. The farmers paid very high prices for the land. They expected to pay for this land with the



money they received for the crops they raised. However, farm prices fell sharply when the war ended in 1918. And farmers did not make as much money as they thought they would. Thus, many farmers could not make the payments on the land they had bought. They lost their land and often their original farms as well. The 1920's were years of increasing farm crisis in the United States. (Abramowitz, 1979, p. 457)

To answer appropriately, students have to recognize that the question is asking for conditions or reasons that are <u>not</u> goals or motives of individuals or groups. Then students have to find the relevant part of the text by recognizing markers such as dates and the phrase "When the war ended in 1918." Next, atudents have to draw beavily on prior knowledge of economics to follow the rather complicated chain of causally-related conditions that constitute the required information. Finally, students have to construct an answer having something like the following general structure:

EFFECT because Condition 1, Condition 2 . . . Condition n.

If there is more than one condition, the conditions are probably also connected by causal relationships.

For the sample question and text, the answer might be:

There were new farm problems after World War I because farm prices fell sharply when the war ended. Since farmers could not earn as much money, they were unable to make payments on land they had bought. As a result, many farmers lost their land.

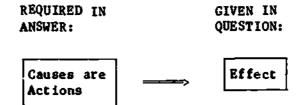
3. When the causes are processes or examples of processes:

How-Effect Questions. The third major subcategory of questions

states an Effect and asks how the Effect was produced rather than



why it was produced. How-Effect questions contain an implicit assertion about an Effect. How-Effect questions are illustrated in the following diagram:



There are two subcategories of How-Effect questions: How-Effect-Process questions, and How- fect-Example questions.

- a. <u>How-Effect-Process</u> <u>questions</u>. In How-Effect-Process questions, the Action that produced the Outcome (given in the question) is a step-by-step process or procedure, or a temporal sequence of events. Some examples of the interrogative form of these questions are:
 - (1) How is a president elected?
 - (2) How did the Incas create good farmland?
 - (3) How did most pioneers get to Oregon?

The Outcome is implicit in the questions: a president is elected, the Incas created good farmland, and pioneers did get to Oregon. Note that Question 1 asks about a process that continues in the present, while Questions 2 and 3 ask about processes that were completed in the past. Nonetheless, all questions ask how an Outcome is or was achieved by a process, or series of steps. The most common imperative form of this question type is "Explain how X occurs/occurred."



An example of the How-Effect-Process question, text and answer. The question, "How did the Incas create good farmland?" might accompany the following text:

Even steep mountainsides were made into good farming land. The Incas built terraces that looked like huge flights of steps going up the side of the mountain. Fertile soil from the valleys was placed on the terraces, and crops were planted there. Channels were built to carry water from melting snow on the mountaintops to dry parts of the land. Bird droppings found on reefs and islands along the Pacific Coast were used for fertilizer. Maize, beans, potatoes, tomatoes, and other food crops were raised. (Gross, et al., 1980, p. 408)

In order to answer the question, students have to recognize the Outcome in the text (The Incas made even steep mountainsides into good farming land), and infer that most of the following sentences explain a four-step process by which this Outcome was achieved: (a) the Incas built terraces on the mountainsides, (b) fertile soil was placed on the terraces, (c) channels were built to carry water to the land, (d) bird droppings were used as fertilizer. Then students have to answer the question using something like the following general structure:

	(occurs/occured) in the following	way.
First, Next,	Then,	_•
Next,_	Pinally,	_•
Ĺ		

For the sample question and text, the answer might be:

The Incas created good farmland in the following way. First, they built terraces on the mountainside. Then, fertile soil was placed on the terraces. Next, channels were built to carry water to the land. Finally, bird droppings were used as fertilizer.



- b. How-Effect-Example questions. In the second type of How-Effect question, the Action that produced the given Outcome is not a step-by-step process but a set of examples of Actions taken. Some examples of How-Effect-Example questions in the interrogative form are:
 - (1) How did the United States fail to honor its treaties with the Indians?
 - (2) How did Squanto help the Pilgrims?
 - (3) In what ways did Hoover try to cure the Great Depression?

Note that questions 1 and 2 contain the implicit assertion that the Outcome was actually achieved (the United States failed to honor 'ts treaties with the Indians, Squanto helped the Pilgrims), while in Question 3, the Outcome was attempted but apparently not achieved.

Possible imperative forms of How-Effect-Example questions include:

- (1) Explain how the Effect occurred.
- (2) Give some examples of how the Effect occurred.

An example of How-Effect-Example question, text and answer.

The question "How did Squanto help the Pilgrims?" might accompany the following text:

Squanto decided to live with the Pilgrims and help them. He showed them where and how to hunt deer and wild turkeys. He taught them where to fish and where to dig clams along the shore. He showed them the best way to plant Indian corn. He put fish in each hill of corn to fertilize the soil. Squanto also helped the Pilgrims trade for furs. (Gross et al., 1980, p. 123)



In order to answer the question, students have to recognize the implicit Outcome stated in the question itself (Squanto helped the pilgrims) and that they are to find examples of ways in which Squanto helped the pilgrims. Then students have to locate the relevant section of text, looking for the Outcome. Next students must realize that the sentences which follow the statement of the Outcome contain examples of "help pilgrims." Finally, students have to answer the question using something like the following general structure:

EFFECT occurred in the following ways.

First example of action. Second example of action. Third example of action

Final example of action.

For the sample question and text, the answer would look very similar to the original text itself:

Squanto helped the Pilgrims in the following ways. First, he showed them where and how to hunt deer and wild turkeys. Second, he taught them where to fish and where to dig clams along the short. Third, he showed them the best way to plant Indian corn, including putting a fish head in each hill of corn to fertilize the soil. Finally, Squanto helped the Pilgrims trade for furs.

Sometimes it is not clear from the question alone which kind of answer is required. For example, consider the question, "How did government improve its finances?" The question could be asking for a series of steps taken by the government that resulted in improved finances, or it could be asking for discrete examples of actions taken by the government, each of which made an independent contribution toward improving the finances. When



the type of required answer is unclear from the question itself, the student must refer to the text to see which kind of information (process or example) is available for the answer.

B. States a Cause and Asks About the Effects

The second major type of Explanation question gives a Cause and asks about the Effect(s) of that Cause. This type of question has two subcategories: What-Effects questions and Why-Importance of Cause questions.

- 1. What-Effect questions. This question type simply asks for examples of Effects resulting from or precipitated by a Cause given in the question. Examples of What-Effects questions are:
 - (a) What were the effects of Japan's occupation by the United States?
 - (b) What were the results of compromises on the slavery issue?
 - (c) What were some of the consequences of World War II for the United States?

The use of words like "effects," "results," and "consequences" makes the intent of these questions clear. Sometimes, however, the causal connection is only implicit. For example, the question "What did Lincoln do following the attack on Fort Sumter?" The question seems to be asking for examples of actions which were precipitated by the Fort Sumter attack.

A common imperative form of What-Effects question is:

(Give/List/State) the (effects/results/outcomes/consequences)

of the Cause.



An example of a What-Effects question, text and answer.

The question "What were the effects of Japan's occupation by the United States?" might accompany the following text:

After World War II, Japan was occupied mainly by the United States. The occupation resulted in political, economic, and social reforms in Japan. The occupation ended in 1951. Since then, Japan has continued its economic growth. Its exports are a challenge to many Western economies. However, Japan is now a strong ally of the United States. (Abramowitz, 1979, p. 665)

To answer the question, students first have to recognize that the question states a Cause ("Japan's occupation by the United States") and asks for the Effects. Then students would have to locate a discussion of the Cause in the text ("After World War II, Japan was occupied mainly by the United States"). Next, they would have to match the Cause with the appropriate Effects by recognizing that "resulted in" is a signal for a causal relationship. Finally, students would have to construct an answer having something like the following general structure:

CAUSE results in Effect.

For the sample question and text, the answer might be;

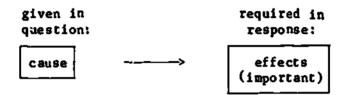
Japan's occupation by the United states resulted in political, economic, and social reforms.

2. Why-Importance of Cause questions. The question states a Cause and strongly implies that one or more important Effects did occur. The students' task is to find the important Effects.

Note that we are <u>not</u> including in our analysis the type of question that asks students to perform an <u>independent evaluation</u>



of the relative importance of Outcomes. Rather, we are describing questions asking for Effects that are either identified as "important" in the text or are apparently important because they are the only Effects discussed in the text. Why
Importance of Cause questions can be illustrated by the following diagram:



Some examples of interrogative Why-Importance of Cause questions are the following:

- (1) Why was the Boston Massacre an important event?
- (2) Why was the Battle of Midway important?
- (3) Why was it important for New York and Virginia to ratify the Constitution?

A corresponding imperative forms is "(Explain/tell) why CAUSE was important."

Note that this category includes only those questions in which the recipient of the Effect(s) is left unspecified. 'ce a recipient is specified in a prepositional phrase (e.g., Why was A important to B?), the question would belong to the next category to be discussed: How did A affect B? (See p. 30.)

An example of Why-Importance of Cause question, text, and answer. The question "Why was the Battle of Midway important?" might accompany the following text:



Two important naval battles, however, stopped the Japanese from taking over more areas. The Battle of the Coral Sea was fought on May 7 and 8, 1942. It was the first naval battle in which ships did not fight each other. The entire battle was fought by airplanes launched from aircraft carriers. Both sides had losses, and there was no real winner in the battle. But the Japanese were stopped from heading south toward Australia, as they had planned. The Battle of Midway took place about a month later in the Central Pacific. There American naval and air forces defeated a much larger Japanese force on its way to invade Midway Island. The battle stopped the Japanese advance across the Central Pacific and ended the Japanese threat to Hawaii. (Drewry, O'Connor, & Freidel, 1982, p. 571)

To answer the question, students have to recognize that the question states a Caure (The Battle of Midway) and implies that one or more Effects of that Cause were important. Then students have to locate the section of text that refers to the Battle of Midway. Next, they have to identify the Effects by recognizing the two verb phrases indicating a causal relationship to "the battle": The battle (a) stopped the Japanese advance across the Central Pacific, and (b) ended the Japanese threat to Hawaii. Finally, students have to construct an answer having the following general structure:

CAUSE was important because it had the following effects: $(\underline{\text{Effect}})$, $(\underline{\text{Effect}})$, . . .

For the sample question and text, the answer might be

The Battle of Midway was important because it had the following effects. It ended the Japanese advance across the Central Pacific, and it ended the Japanese threat to Hawaii.



C. Asks for an Elaboration of a Causal Connection Between a Specified Cause and Effect: How did A Affect B?

This third major type of Explanation question contains the implicit assertion that a particular Cause (A) did produce a particular Effect (B) and asks the student to add links to the causal chain between A and B; that is, to tell about the connection in greater detail or give evidence in support of the connection. Some examples of this type of question in the interrogative form are:

- (1) How did the discovery of gold halp California grow?
- (2) How did transportation help industry grow in the Middle Atlantic states?
- (3) How did World War I help the cause of women's suffrage?
- (4) How did the cotton gin affect the spread of slavery?

As you can see, A and B can be many different things, including events like the discovery of gold, objects like the cotton gin, conditions like suffrage for women, and phenomena like transportation. Also, A and B can vary along a dimension of generality/specificity. For example, the discovery of gold is more specific than the undefined aspects of World War I, and the cotton gin is a much narrower concept than transportation.

Imperative forms of this question type include,

- (1) Explain how A affected B.
- (2) Explain the effect of A on B.



As mentioned in the discussion of the last category (WhyImportance of Cause), this category includes questions of the
form "Why was A important to B?" The implication is that A was
important to B (had some effect on B), and the student's
task is to give evidence in support of this assertion.

An example of How did A affact B quastion, text, and answer. The question, "How did the cotton gin affect the spread of slavery?" might accompany the following text:

At the time our nation was founded, many Americans, including many southerners, thought that slavery would soon end. In much of the south the soil was no longer good enough for big crops of cotton and tobacco. Slavery and the plantation system were not as profitable as they had been. But when Eli Whitney invented the cotton gin, types of cotton that grew in different soils could be used. Cotton again became a very profitable crop for planters. Cotton farming spread westward. It helped bring about the quick settlement of the South Central region. And slavery spread westward with the cotton.

There was a steady demand for cotton that could be made into cloth in the factories of New England, England, and other places. The planters said, "We must have slaves to raise the cotton the world needs." (Gross, et al., 1980, p. 268)

To answer the question, students first have to recognize the Cause and Effect relationship implicit in the question: cotton gin is the Cause and the spread of slavery is the Effect. Then atudents have to find the relevant text segment by searching for references to the Cause and Effect. Next, students have to try to find the events in the text that causally connect the cotton gin and the spread of slavery. This can be a challenging task, since causal relationships are often left implicit in textbooks



(ace Armbruster & Anderson, 1982). In the sample text, for axample, students have to infer that the following are causal or enabling links: the cotton gin enabled different types of cotton to be grown profitably; the fact that cotton was a profitable crop caused cotton farming to spread westward; because slaves were needed to grow the cotton, slavery spread with the spread of cotton farming. Finally, students must construct an answer having the following general atructure, which makes explicit the causal chain between A and B.

CAUSE affect Effect in the following way.
A (caused/enabled) N.
N (caused/enabled) N'.
N' (caused/enabled) N''.
N'' (caused/enabled) B.

For the sample question and text, the answer might be,

The cotton gin affected the spread of slavery in the following way. The cotton gin enabled different types of cotton to be grown profitably. The fact that different types of cotton could be grown profitably caused more cotton farmers to move west and plant cotton. Because slaves were needed to grow the cotton, slavery spread westward also.

VI. Description: What is? Who is?

Description questions ask students to describe a person, place, or thing by giving its characteristics or properties. A subset of Description questions asks specifically for a definition or description of a concept, that is, the defining or critical attributes of the concept. Some examples of Description questions in the interrogative form are:



- (1) What was the Monroe Doctrine?
- (2) What is nationalism?
- (3) Who was Harriet Tubman?
- (4) Who were the transcendentalists?

 Question 1 asks for a description of an individual; Question 2 asks for a description of a group; Question 3 asks for a description of a doctrine or policy; and Question 4 asks for a definition of a concept. Interrogative description questions typically begin with "Who" or "What." Common imperative forms are:
 - (1) Describe X
 - (2) Define X

Answering description questions. In general, the kind of information required to answer Description questions must be derived from the responses to a subset of the questions What, Who, When, Where, Why, and How. For example, consider the task of answering the question "What was the Monroe Doctrine?" based on the following text:

. . . Under these treaties, the United States gained more land. There also was less chance of war with Europe over boundaries. However, Europe was still interested in the Western Hemisphere. Many of Spain's colonies in the New World had won independence. It was feared that Spain might try to conquer them again. The United States was also concerned about any such action by a European power. President James Monroe and Secretary of State John Quincy Adams worked out a declaration that was sent to Congress in 1823. This Monroe Doctrine made four main points.



- Europe could establish no new colonies in the Western Hemisphere.
- 2. European attempts to colonize or control countries in the Americas would be considered unfriendly by t'e United States.
- The United States would not interfere in the affairs of Europe or its existing colonies.
- 4. Europe must not interfere with any country in the Western Hemisphere.

The Monroe Doctrine warned that the United
States was ready to protect its interests in the Western
Memisphere. Actually, the United States had no power to
enforce the Monroe Doctrine. It knew, however, that the
British supported the American ection. Greet Britain did
not want Spain to regain its power in the Americas. The
powerful British navy was a force that Europeans could not
easily overcome. No European nation attempted to challenge
the Monroe Doctrine until the 1860's. By then, the United
States was strong enough to enforce it.
(Abramowitz, 1979, p. 239)

In answering the question "What was the Honroe Doctrine?" it would be reasonable to respond to subquestions auch as "When was the Honroe Doctrine issued?" "Who initiated the Honroe Doctrine?" "What we've the principles or provisions v" the Honroe Doctrine?" and "Why was the Honroe Doctrine issued?"

The key to answering Description queations is knowing which reaponses to which subquestions must be included in the answer. The decisions about which subquestions to address appears to depend on the topic of the question, that is, on what is being described. Somewhat different subquestions are appropriate for descriptions of individual people, groups of people, doctrines or policies, places, etc.



Two aspects of the answer will vary as a function of the question topic: the subquestions addressed and the form of those subquestions. Not all questions are appropriate for all topics. For example, the answer to the How subquestion may not be appropriate or necessary in answering many questions, including "What is nationalism?" Second, the form that the subquestions take depends on the topic. For example, for a description of a group, the most appropriate "What?" subquestion is probably "What were the key beliefs of the group?" whereas for a description of a policy or doctrine, the best "What?" subquestion is probably "What were the provisions of this policy?"

Table I contains our analysis of probable subquestions that could or should be addressed in answering Description Questions about some common topics in social studies. Table I is intended to illustrate our analysis of Description questions; we do not presume that our analysis is exhaustive and invariable. In sum, we believe that the answers to Description questions must address a subset of Wh- and How subquestions. The type of subquestion, however, depends on what is being described.

Insert Table I about here.

In answering a Description question, then, students face a complex task. First, they must learn from the question what topic they are being asked to describe. They must know from experience (or instruction) which subquestions to address in



answering the question. Then students must be able to gather from the text the appropriate information to respond to the subquestions. Finally, students must be able to write a coherent answer which weaves together the responses to all the subquestions. Just as the subquestions vary depending on the topic of the question so, too, do the answer formats. Returning to our question "What was the Monroe Doctrine?" the general structure for the answer might be something like the fol wing:

	octrine was issued by	in
i	The Doctrine stated the f	following
provisions:	,	• •
·	The Doctrine was issued	because
·		
		-

Of course, the answer to "Who was Harriet Tubman?" would have an entirely different format, reflecting appropriate subquestions for identifying individuals of historical significance.

VIII. Comparison Questions

Comparison questions ask students to give the similarities and/or differences between two or more items. The items that are to be compared can be almost anything—concepts, people, places, policies, objects, events, processes, explanations, etc. Our taxonomy includes two types of Comparison questions. The first type is the traditional compare/contrast question, which we will simply call Compare/Contrast. The second type of Comparison question asks how something changed over time.



A. <u>Compare/Contrast</u> Questions

Compare/Contrast questions in the interrogative form usually ask for differences, for example,

- (1) How did the Federalists and Anti-Federalists differ in their views?
- (2) What is the difference between a revenue tariff and a protective tariff?
- (3) In what ways does a federal union differ from a confederation?

In the imperative, Compare/Contrast questions can take the following forms:

- (4) Compare and contrast some of the domestic problems faced by the United States in 1789 with those of today.
- (5) Compare the views of Hamilton and Jefferson on government.
- (6) Contrast the "spoils system" with the "merit system" of appointment to government jobs.
- (7) Tell how Hoover's "trickle down" theory compares with Roosevelt's "pump priming" theory.

The imperative form of Compare/Contrast questions is sometimes ambiguous. While "Contrast" questions are clearly asking for differences, "Compare" questions could be asking for similarities and/or differences. It is often the case, however, that differences are the true focus. For example, the answer to the question asking for a comparison of the views of Hamilton and Jefferson on government would include few, if any, similarities, at least insofar as the answer could be derived from most American history textbooks.



An example of Compare/Contrast question, text, and answer.

The question "How did the Federalists and Anti-Federalists differ in their views?" might accompany the following text:

Federalists generally favored a strong national government and a loose interpretation of the Constitution. They believed that the Constitution gave broad powers to the national government. These powers could be interpreted according to the country's needs. The Federalists also believed that only those actions specifically forbidden by the Constitution were unconstitutional. Federalists did not want to give too much power to ordinary people. The Federalists wanted to encourage finance, industry, and trade. They believed that agriculture alone could not provide a strong economy. As a rule, they were supported by trading and manufacturing people in the North.

Most Anti-Federalists favored a different system of government. They wanted power left in the hands of the states. The Anti-Federalists opposed strong national authority at the expense of states' rights. In addition, they believed in a strict interpretation of the Constitution. This meant that actions of the national government had to be based on powers specifically listed in the Constitution. The Anti-Federalists favored extending voting rights to more people. Not all white maies could vote at this time. There were property or money restrictions. (Abramowitz, 1979, pp. 201-202)

To answer the question, the student first has to identify from the question the two relevant items (Federalists and Anti-Federalists) and the fact that points of difference in views are required in the answer. Then the student has to locate in the text information pertinent to the views of both Federalists and Anti-Federalists, using semantic clues such as "favored," "believed," "opposed," and "did not want." Next, the studen has to select points of difference between the views. This task requires quite a bit of background knowledge and inferencing.



For example, in order to understand that the Anti-Federalists' support of extending voting rights to more people was different from the Federalists' desire not to give too much power to ordinary people, students have to know the relationship between "voting rights" and "power." Finally, students have to construct an answer using one of the generally accepted compare/contrast structures-"for example, point-by-point or parallel order (e.g., Guth & Schuster, 1970). The sample text excerpt represents a parallel order construction, where all the views of the Federalists are presented first, followed by all the corresponding (contrasting) views of the Anti-Federalists. The following format illustrates a possible point-by-point format for the response.

Federalists an	d Anti-Federalists dif	fered in their
views on	Federalists bel	ieved
while Anti-Fed	eralists believed	• Federalists
and Anti-Feder	alists also had differ	ent views on
Fe	deraliats thought	On the other
hand, Anti-Fed	eralists supported	<u></u> .

B. How Did X Change Questions

The second type of Comparison question implies the truth of the assertion that X did change from Time 1 to Time 2. At least implicitly, the question asks for a contrast between X at Time 1 and at Time 2. Examples of the interrogative form of this question type include:

- (1) How did cattle raising change with the end of the open range?
- (2) How did federal policy toward the Indians change under Presidents Johnson and Nixon?



Imperative forms of this question type include "(Describe/tell/explain) how X changed from Time 1 to Time 2."

At least implicitly, the questions are asking students to compare cattle raising after the open range ended with cattle raising before the open range ended; and the federal policy toward Indians after Presidents Johnson and Nixon with federal policy toward Indians before Presidents Johnson and Nixon. It is often the case, however, that students do not need to make the contrast explicit; it is enough to describe or give examples of the changes in X at Time 2 that are causd by a given event. Sometimes, students will be expected to make the contrast explicit, in which case they would treat the question as a Compare/contrast question.

An example of How did X Change question, text, and answer.

The question "How did cattle raising change with the end of the open range?" might accompany the following text:

All these forces—too many cattle, bad weather, farmers, and government intervention—would bring an end to the cattle kingdom of the open range. As farmers moved in, the ranchers could no longer graze their cattle free on the public lands. Now ranchers had to develop new methods. They actually had to buy the r grazing land. Pastures were divided up and fenced. Better cattle were bred. Food was grown for winter feed. Water was supplied by well and windmill so that cattle would not have to walk far and lose weight. The cowboy became a cowhand working year-round and round the clock. No longer could he, as one recalled, "sit around the fire the winter through" doing no work "except to chop a little wood to build a fire to keep warm by."



Some people specialized in breeding cattle, others in fattening them for market. Cattle raising became a scientific business. It was no longer the wild, romantic adventure it once had seemed. The day of the cattle kingdom was gone. The new era belonged to the ranch hand and the farmer. (Boorstin & Kelley, 1981, p. 335)

To answer the question, students must realize that the question is implicitly asserting that cattle raising changed because the open range ended, and that they must generate examples of change causally connected to the end of the open range. Then, students have to find the relevant section of text that discusses the end of the open range and look for examples of changes that resulted from the ending of the open range. In the sample text, these changes are presented in list form, so the task for the student is simplified. Finally, students have to construct an answer having something like the following general structure:

X changed at Time 2 in the following ways:

For the sample question and text, the answer might be:

Cattle raising changed with the end of the open range in the following ways. Ranchers developed new methods of raising cattle. Pastures were divided up and fenced. Better cattle were bred. Food was grown for winter feed. Water was supplied by well and windmill so that cattle would not have to walk far and lose weight. The cowboy became a cowhand working year-round and round the clock. Also, cattle raising became a scientific business. Some people specialized in breeding cattle, others in fattening them for market.



A CORPUS OF CLASSIFIED QUESTIONS

As part of the development of the taxonomy, we randomly sampled 75-80 questions from each of four current intermediate level American history textbooks. This section presents our final classification of 315 questions drawn from this sample. In parentheses after each category label, we have included the percentage of total questions in that category. We will have more to say about these percentages in the Discussion.

I. Time: When? (1.3%)

When was the cotton gin invented? When did Lee surrender to Grant? When was the surrender? (Civil War) When was Lincoln assassinated?

II. Location: Where? (1.0%)

Where was the surrender? (Civil War)
Where were slaves freed at the time of the Emancipation
Proclamation?
Where did the U.S. implement The Policy of Containment between
1953 - 1955?

III. Quantity: How many?, How much? (1.0%)

How far is Alaska from Siberia?
What was the cost of the war in materials, soldiers, and morale to the South?
Describe the cost to the North and the South of the Union victory.

- IV. Name: Who? Whose? (6.0%)
 - A. States a trait or salient characteristic f a person or group and asks for the name (3.2%)

Who opposed President Adam's neutrality toward France?
Who was elected President in 1796?
Who commanded the Army of the Potomac in 1864?
Who replaced McClellan as commander of the Army of the Potomac?
Who surrendered the last Confederate army?
Who was the Republican candidate for President in 1948?
Who suggested creating a pact to outlaw war?



Who did much of the work raising cotton and who got almost all of the benefits? Who invented the cotton gin? Who developed the idea of brinkmanship?

B. Asks for the total set of people or groups within the category stated in the question (2.2%)

Who were Andrew Jackson's supporters?
Who were the commanders at Shiloh?
What U.S. President annexed Texas?
Name the nations of the Allies.
Name the nations of the Central Powers.
Fine the three original countries of the Triple Alliance and the Triple Entente.

C. Asks or a subset of people or groups within the category stated in the question (0.6%)

Name some of the nations that acquired large empires in the late 1800's and early 1900's. Name five new nations that were formed after World War I.

- V. Concept identification: What? Which? (16.3%)
 - A. States a characteristic of a concept or thing and asks for its name (6.8%)

What governmental custom did President Washington start that is still used today?

What territory did the U.S. gain through the Treaty of Guadelupe Hidalgo?

What law did Congress pass to organize the judicial branch of the government?

What crop became the biggest money-maker for the settlers in Virginia?

What political agreement helped Congress to pass the assumption act?

What was the first permanent English settlement in the New World?

What meeting took place in Washington in 1921?

What did Eli Whitney contribute to the Industrial Revolution?

What was the Union's major objective in the East?

What role did Blacks play in the Union army?

What role did France and Britain play during the Suez crisis?

What was the main idea of the Eisenhower Doctrine?

What was most of early New England literature about?

What was the status of farming during the war?

What was the tone of Lincoln's second inaugural address?

From what state was the Republican candidate for President in 1948?



Upon what important democratic principle was the Selective Service Act based?
Which battle stopped the Confederate invasion?
Which political party controlled Congress during the war?
To which political party did the President elected in 1796 belong?
How did President Jackson feel about the doctrine of nullification?

B. Asks for the total set of concepts or things within the category stated in the question (7.6%)

What powers did the Constitution provide? What new possessions did the United States gain in the peace tresty with Spain in 1898? What changes did Jackson make as President? What were the plans of each side to win the war as soon as ressible? What foreign problems did the new nation have to solve? What were the terms of the Treaty of Guadelupe Hidalgo? What formal commitments did the United States make in its policy of containment? What strategies did the Eisenhower administration pursue to contain communism? What limits on voting in the original 13 states limited American democracy in the early years of the nation? What problems did pacole in the early 1900's expect to be solved when automobiles replaced horses in the cities? What territories were established during the war? What inventions brought changes to the American lifestyle? What events in Thomas Edison's early life prove that he was determined to be a scientist and inventor? What were the major battles fought in late 1862 and 1863? What battles took place between the armies of Grant and Lee? What were the major battles of the Civil War? What new whapons were first used during World War II? What were the terms of the Pive-Power Pact? Into what two political parties did the Democratic-Republican parties split? How did Americans show they believed that every nation should enjoy freedom? Name the political parties started by Jefferson and Hamilton. Name the three departments of the executive branch. List the problems of farmers during the last quarter of the 19th century. List the problems mechanization brought to the farm.



C. Asks for a subset of the concept or thing within the category stated in the question (1.9%)

What were two things that the Friends refused to do? Name some of the victories American troops won or helped to win during World War I.

Name three Spanish words that were part of a typical cowhand's vocabulary.

Can you name three of the major parts of the English economic plan?

List three machines that increased farm production. List three things that helped the growth of industries in the North.

VI. Explanation: Why? How? (46.1%)

A. States an effect and asks about the cause (31.2%)

1. When the causes are goals (15.6%)

a. Why-Action? (8.6%)

Why did Commodore Matthew Perry visit Japan in 1853?

Why did farmers organize?

Why did Arkansas, North Carolina, Tennessee, and Virginia leave the Union in May, 1861?

Why did the United States try to avoid war during the administrations of Washington and Adams?

Why did so many people invest in the stock market? Why did King Charles II agree to give William Penn such a large grant of land?

Why did John Wilkes Booth assassinate President Lincoln?

Why was the Senate vote against approving the Versailles Treaty?

Why did most Indian tribes become French allies at the beginning of the French and Indian War?

Why was the South's strategy one of trying to win the Civil War quickly?

Why did the Russians want to sell Alaska to the United States?

Why did some industrial nations want to divide China among themselves?

Explain why Lincoln hesitated to issue the Emancipation Proclamation.

What attracted people to Texas?

What prevented President Lincoln from putting his plan into action?



What was Lord Calvert's main reason for establishing the colony of Maryland? What was Lincoln's primary purpose in fighting the war?

What did Lee hope to accomplish by his second invasion of the North?

What was the purpose of "Sherman's March to the Sea?"

What did the participants at the summit conferences hope to accomplish?

What was one purpose of those who wrote about the beauty and natural wonders of America? What was President Lincoln's purpose in the Emancipation Proclamation?

What action caused the United States to enter World War I on the side of the Allies? For what reason did the Supporters of Jackson

defend the spoils System?

Describe the reasons for the following policies toward slaves:

- a. contraband
- b. The Confiscation Act
- c. The Emancipation Proclamation

b. Why-Conflict?

(1.62)

Why was the Civil War fought between the North and South?

What caused World War I to break out in Europe? What were some of the causes of trouble between the Americans and the British?

What things continued to cause problems between Japan and the United States? What event led to World War I?

c. Why-meaction?

(5.4%)

Why were the Alien and Sedition Acts unpopular with many Americans?

Why was the South opposed to a high protective tariff?

Why did President Jackson oppose the Second Bank of the United States?

Why were some European nations opposed to Germany's building a Middle East railroad? Why was the war opposed by the Copperheads,

draft rioters, and new immigrants?
Why did Lyndon Johnson express concern over the
"Missile Gap"?

Why did X oppose President Adam's neutrality policy toward Prance?



Why was President Wilson opposed to reparations?
Why were Americans angry about World War I?
Why did the Sioux want to keep the gold prospectors out of the Black Hills?
Why did President Washington believe that neutrality toward both France and Great Britain was the beat policy for the United States?
Why were many Americans sympathetic toward the French Revolution?
Why did the spirit of Geneva give people hops,

Why did the spirit of Geneva give people hops, even though it achieved few concrete results? Why was Andrew Jackson a popular presidential candidate?

What are some of the reasons that might have led to the witchcraft panic in Salem?
What caused a change in British sympathy?
List and briefly explain the causes of American self-doubt about the country's position as a leader in science and technology?

When the causes are conditions: Why-Effect? (7.0%)

Why was there a tremendous increase in farm production in the late 1800"s?

Why did the new lands acquired by the United States oversess cause problems?

Why was the Kellogg-Briand Pact not very effective? Why was the South defeated even though its military strategies were often superior to those of the North?

Why did the Union feel it was better prepared to win the war quickly?

Why did the Confederacy feel it was better prepared to win the war?

Why did the Confederacy think it would get financial aid from France and Britain?

Why was it more difficult for the South to pay for the war?

Why was life on the home front more difficult for southerners?

Why did Edison want his inventions to be useful? Robert E. Lee, thought by many to be the greatest general of the war, won battle after battle. Yet,

he was finally forced to surrender. Why? What caused the "baby boom" of the 1950's?

What caused the decline of the whaling industry?

What conditions caused hard times in South Carolina during the 1820's?

What led to the end of the open range and the cattle frontier?



What conditions kept Franch engineers from completing a canal across the Isthmus of Panama?

What actions caused many Latin American nations to think of the United States as the "Colosaus of the North"?

Give four reasons for the crash.

Give at least five reasons for the northern victory. The Constitution makes no mention of a President's Cabinet, yet the Cabinet performs a vital function. Explain this:

Explain why some historians have said that Germany "forced" the U.S. government into a declaration of war.

Identify the causes of the rise and the decline of the Populists.

3. When the causes are <u>processes</u> or examples of processes (8.6%)

How did Japan become a modern nation?

How did the government become more democratic?

How did the United States help to win World War I?

How did farmers organize?

How did political parties develop?

How did the United States obtain Hawaii?

How did the Germans overcome the disadvantage of the much larger British navy?

How did those opposed to fighting avoid becoming anoldiers?

How did each section raise money and soldiers for

How did the South and North get troops as the war continued?

How did the government improve its finances?

How else were people persuaded to join the armies?

How else was the war supported on the home front?

How was the Union threatened and saved?

How did Lincoln try to handle the Fort Sumter crisis?

How did Lincoln try to do what he did in his

inaugural address?

Although the Constitution made no provision for political parties, how do they help the government to operate?

What steps did the United States take to ease tensions with Japan?

What steps did the United States take to try to keep the peace after World War I?

What led to the easing of tensions between the United States and the Soviet Union?

What was done to strengthen the new government? What part did the United States play in making peace?



Explain what led to the relaxation of global tensions between 1955 and 1958.

Identify how the United States implemented the policy of containment between 1953 and 1955.

List the events that led to the collapse of the 1960 summit conference.

Trace the course of Lincoln's thinking and his actions about slavery and emancipation.

Trace the political development of the Philippines,

of Alaska, of Hawaii, and of Puerto Rico.

B. States a cause and asks about the effects (5.4%)

1. What-Effects? (2.9%)

What did the Civil War accomplish?
What did Grant accomplish by capturing Vicksburg?
What was the result of the battle of the ironclads?
What did Lee hope to achieve by invading the North?
What did Lincoln do following the attack on Fort
Sumter?

What did each side do following the first Battle of Bull Run?

Why did Lincoln consider Anthetam an important Union victory?

Why was the tariff a troublesome problem? How did the new government respond to the opposition of Copperheads, draft rioters, and new immigrants?

2. Why-Importance of Cause? (2.5%)

Why was the Social Security Act of 1935 so important? Why was the first Battle of Bull Run important? Why was cattle branding necessary? Why was the 49th Parallel important? Why was the whaling industry so important in the early 1800's and why did it decline after 1860?

C. Asks for an elaboration of a causal connection between a specified <u>cause</u> and <u>effect</u>: How did A Affect B? (9.5%)

How did the war affect people on the home fronts?
How did world events affect the United States?
How did the Russian Revolution affect the War in Europe?
How did events at sea lead to U.S. involvement in the
Great War?

How did the election of 1800 cause the Constitution to be amended?

How did events in Europe and the United States during the early 1800's favor the growth of American "infant industries"?



How did the Whiskey Rebellion test the strength and power of the national government?

How did the slavery issue play a role in the early history of Texas?

How were the farmers kept in debt by the crop-lien system?

How did the tax and banking systems work against the farmers?

How did the Proclamation of 1763 "pacify" the Indians? How did President Wilson's health play a role in the struggle over the Treaty of Versailles?

How did religious beliefs play a role in the establishment of all the New England colonies?

How was Edison's success often based on other scientific discoveries?

How did invention bring changes to the American lifestyle? How did the "showcase city" of Charleston depend on the labor of black slaves?

Explain how laissez-faire economic policies might have contributed to a dangerous economic situation?

Why was slavery so important to plantation owners and cotton dealers?

Why was the development of interchangeable parts so important for the growth of factories?

Why is a patent so important to an inventor?

Why was Virginia important to the Confederacy?

Why were relations with Britain so important to both sides?

Why was the Eattle of Antietam politically important for Lincoln?

Why was the Battle of Gettysburg important to both the North and the South?

Why were good communications important for an army to be successful?

Why might the election of Thomas Jeffersor in 1800 be regarded as a victory for democracy?

Why was the victory at Vicksburg important to the Union? Why was Lincoln's assassination a loss for the South?

What did nationalism have to do with the build-up of armed forces around the world?

Which series of battles in Virginia led to the Confederate surrender?

Describe the results of the following policies toward slaves:

- a. contraband
- b. the Confiscation Act
- c. the Emancipation Proclamation



VII. Description: What is? Who is? (24.1%)

People: (8.9%)

Who were the forty-niners? What are greenbacks? Identify or explain: the Copperheads 54th Massachusetts Regiment Charles Francis Adams Admiral Parragut Ambrose Burnside Joe Hooker William Sherman "Stonewall" Jackson P.G.T. Beauregard Irvin McDowell John Quincy Adams Andrew Jackson John C. Calhoun Robert Havne Daniel Webster Henry Clay Martin Van Buren John Foster Dulles Chiang Kai-shek Ho Chi Minh Nikita Khrushchev Gamal Abdul Nasser Adlai Stevenson Sherman Adams George Meany Prancis Gary ve rs

Policies: (6.0%)

What was the Taft-Hartley Act?
What was the Homestead Act of 1962?
What was the Anaconda Plan?
What was prohibition?
What did the Emancipation Proclamation state?
What was Alexander Hamilton's financial plan to strengthen the new national government?
In his inaugural address, what was President Lincoln's position on slavery?
About what was the Clark Memorandum written?
How did the United States govern its lands overseas?
In your own words, define the Policy of massive retaliation.
Explain the doctrine of nullification.

Explain America's "Open Door Policy" for China.



Identify or explain: Conscription Act of 1863 the Baghdad Pact open skies crop-lien system Can you explain what each of the following New Deal proposals were? a. Civilian Conservation Corps b. Federal Emergency Relief Act National Industrial Recovery Act (1.62)Places: Identify or explain: Appomattox Antietam Shil oh Dien Bien Phu Quemoy and Matsu (7.6%)Others: What was "court packing"? What are "reparations"? What was the spirit of Geneva? What was the Zimmerman telegram? What was the Comstock lode? What was the battle of the ironclads? What was Pickett's Charge? What was the "march to the sea"? What were the plans of each side to win the war as soon as possible? What was Grant's plan for victory? What do each of the 3 departments of the executive branch do? What is meant by the term brinkmanship? What did Sam Houston mean when he told his troops to "Remember the Alamo"? What is Puerto Rico's relationship to the U.S.? Describe the present-day relationship between Puerto Rico and the United States. Describe the relations between the early colonists at Plymouth

Explain the Union's strategy in the first stage of the war. Explain the slogan, "Millions for defense, but not a cent

and the Indians.

farm mechanization specialization farm tenancy

for tribute."

Identify or explain:
the Virginia



Sputnik missile gap

VIII. Comparison:

(4.5%)

A. Compare/contrast

(3.5%)

How did the Civil War differ from earlier wars?

Both Britain and Germany angered the United States in the early part of the War. How were the German and British actions alike? How were they different?

What is the difference between direct trade and triangular trade?

What were the Union's advantages?
What were the Confederacy's advantages?
What was Grant's advantage over Lee?
Compare the advantages and disadvantages of the North and South at the beginning of the Civil War.
Contrast the views of Jefferson and Hamilton on the following problems: a) Who should run the national government? b) How much power should the national government have?

Explain the difference between imperialism, colonialism, and economic imperialism.

Explain the difference between a revenue tariff and a

Explain the difference between a revenue tariff and a protective tariff.

B. How did X Change?

(1.0%)

List the ways farming changed after it became mechanized. Explain what happened in 1896 to the cause of populism. Did President Hoover change his economic views as a result of the Great Depression?

DISCUSSION

In this section we discuss what we learned from developing the taxonomy and suggest how the taxonomy might be used. The discussion begins with a profile of the classification of questions presented in the previous section, particularly the relative frequency of sampled questions within the various categories of the taxonomy. Then the discussion turns to variables that affect the difficulty of answering questions, including aspects of the question itself, the text, the student,



and the context. Finally, we draw some implications of the taxonomy.

A Profile of Question Types

As stated in the previous section, by far the highest percentage (46%) of questions in our sample are Explanation questions. Within this category, most questions state an Effect and aak about the Cause. Apparently authors and/or publishers of American history texts think that students should be able to give a causal account of social events, and few would argue about the importance of this type of question.

We think that our taxonomy has shed some new light, especially on Explanation questions. The taxonomy captures a critical aspect of explanations in history—unlike other sciences, causes in history are often attributed to people's goals and intentions. We think it is important to recognize that many Explanation questions in history require an analysis of the underlying goals.

Questions in the Time, Location, Quantity, Name, and Concept Identification categories constitute about 25% of the sampled questiona. The answers to these questions can often be found stated explicitly in the text and can usually be answered by a word or short phrase. Therefore, answering these questions is often a rather trivial process of locating the relevant text segment and recording the answer. However, not all so-called "fact questions" involve only trivial processing. For example,



York?" Collins, Warnock, Aiello, & Miller (1975) demonstrate that it is possible to deduce a reasonable answer to this question from generally available world knowledge. Such world knowledge includes the size of New York City, the number of households that have planos, the amount of time that a piano can go without being tuned, the number of pianos that a piano tuner can tune in a year, etc. It is easy to see the sophistication of inferencing involved in deducing a seemingly trivial answer. Of course, the task is trivial when the text states, "New York has X piano tuners."

The other relatively high percentage (24%) of questions in the sample were Description questions. The sample questions require many different kinds of descriptions—of people, policies, places, events, strategies, etc. Since each concept requires a different type of description, the task of answering Description questions is not as straightforward as it might first appear.

We were surprised by the very small percentage (4.5%) of questions in the Comparison category. We had predicted that questions asking students to compare events and people and discuss changes over time would be more popular than they appear to be from this sample.

We turn now to a different subject -- variables that affect the difficulty of answering quescions.



<u>Difficulty of Answering Questions</u>

The difficulty of answering questions is an extremely complex function of many variables. These variables include aspects of the question, aspects of the text that serves as the information source for the answer, requirements for producing an answer, and student characteristics.

Lexical, Syntactic, and Logical Structure of the Question

From the presentation of the questions sampled, it is obvious that questions within the same category can be stated in a variety of ways. For example, each of the questions below requires an understanding of the causal relationship between British tariffs and the Boston Massacre. Yet the questions are quite different; they vary in lexical, syntactic, and semantic characteristics.

- (1) What caused the Boston Massacre?
- (2) Why did the Boston Massacre occur?
- (3) List the causes of the Boston Massacre.
- (4) Trace the events that lad to the Boston Massacre.
- (5) Explain how the British tariffs and the Boston Massacre are related.
- (6) Describe an example of violence in Boston that resulted from the Boston Massacre.
- (7) In what ways did the British tariffs lead to the Boston Massacre?
- (8) Explain the Boston Massacre.
- (9) How did the British tariffs result in the Boston Massacre?

Vocabulary, syntax, and logical complexity all affect ease of interpreting a question. Obviously, the effects of these question variables are potentially more serious for students with limited language, reading, and thinking skills.



Complexity of the Concepts Contained in the Questions

Almost every question in our sample implied an assertion about a relationship among concepts. For example, the question "How did Japan become a modern nation?" strongly implies that Japan did become a modern nation. A response, then, must derive from an understanding of the concepts related to one another in the implied assertion.

Some concepts are more complex than others and, consequently, any question that encompasses the more difficult concepts will be more difficult for the student to answer. For example, the question, "How did the Boston Massacre affect American feelings toward England?" relates two reasonably uncomplicated ideas, "Boston Massacre" and "American feelings." On the other hand, the question, "How did protective tariffs affect the growth of industrial productivity?" requires a much higher level of abstraction and conceptual sophistication in order to comprehend the concepts and relate them to each other. In the latter question, both concepts (protective tariffs and industrial productivity) are in themselves quite complex and, consequently, relating them is likely to be difficult.

Complexity of the Relationships Linking the Concepts

Particularly in Explanation questions, the number of links relating the Cause and Effect can alter the difficulty of answering questions. For instance, answering the question, "How did transportation help industry grow?" is surely more straightforward than the question, "How did the cotton gin



contribute to the spread of slavery?" The former question requires only a listing of one or more reasons, each not necessarily linked to any other reason or stated in any particular order. In contrast, the latter question about the relationship between the cotton & and the spread of slavery requires an extended explanation which involves, among other things, the information that the cotton gin made planting of a new, hardier cotton possible, that the hardier cotton opened up new areas of the South and Southwest to cotton planting, that cotton growing again became profitable, that large plantings increased the need for manual labor, and that manual labor demands could be equated with the demand for slaves.

Availability of the Answer in the Text Materials

Pearson and Johnson (1978) have delineated three types of question-answer relationships: text-explicit (the answer to the question is stated explicitly in the text); text-implicit (the answer to the question is in the text but must be integrated across segments of the text); and script-implicit (the answer to the question is not available in the text but must be inferred by the reader based on prior knowledge). The questions sampled from the four texts were text-explicit; or text implicit. None of the questions in the texts were script-implicit. Other factors being equal, students will have an easier time answering text-explicit questions than text-implicit questions. Ease of answering script-implicit questions, of course, depends on the student's



prior knowledge of the question topic, a subject to which we will return in the section on student characteristics.

Clarity of Text

The clarity of the source of information containing the answer to the question also has a strong influence on the difficulty of answering the question. Clarity depends on a number of variables, including coherence, conceptual density, syntactical complexity, and vocabulary difficulty. Problems with text clarity make it difficult for students to find and understand the information they need to answer questions.

Requirements of Answering the Question

Several aspects of the act of answering questions also affect the difficulty of the task. One factor is the context—the time available for answering the question and the location of the task—classroom, library, or home—with its accompanying distractions. A second factor is the availability of the source of information at the time of answering the question. For example, is the question to be answered from memory or will the student have textbook, notes, or other help available? A third factor is the completeness or level of sophistication of the required answer. For example, consider once more the question, "How did the cotton gin contribute to the spread of slavery?" Is "The cotton gin helped increase the need for slave labor" considered an adequate response, or is a higher level of explanation which includes more of the causal and enabling links expected? Other context factors include the audience for the



answers (teacher, peer, or parent), whether or not the answer will be graded, and the format of the response (written vs. oral, multiple choice or short answer vs. essay, verbatim vs. paraphrased from the textbook, etc.).

Student Characteristics

Many personal factors may affect the ease or difficulty students experience in answering questions. We have selected two for consideration here: knowledge and interest. Knowledge includes an understanding of questions and how to answer them as well as knowledge about the topic of the question. In general, the less students know about either of these, the harder the question answering task will be. In addition to knowledge, interest affects question answering. Obviously, the student who is not very interested in the question topic may not even be motivated to try to answer the question.

Concluding Comments

As illustrated earlier in this paper, a cursory analysis of questions could mislead students because questions that look alike are often asking quite different things. It is therefore important for students to learn to analyze what questions are asking. We suspect that even though students spend a high percentage of their school and homework time answering questions, teachers probably spend very little time teaching students to read text that has been written in less than optimum ways or to recognize and respond to major types of questions.



Teachers may want to use some of the examples from this taxonomy to demonstrate to students the range of wording for question-types. Teachers might also want to teach students the general response forms given in the taxonomy appropriate for each question-type. We believe that if students are taught

Description frames as Armbruster and Anderson (1982) suggest, or the bar graph paragraph structures developed by the Board of Education of the City of Chicago (1982), students might be better able to answer Description questions. Students would glean similar benefits from learning Goal, Action, Outcome frames for explanation question analysis and answer writing.

Teachers may also want to teach students to anticipate question-types that fit text-types. It is likely, for example, that Description questions will follow descriptive text passages and that Compare/Contrast questions will accompany text selections that present several examples of the same things.

One final comment. We were struck by the complex world of middle grade accial studies text attructures, question-types, background knowledge requirements, and the sheet amount of information that students and teachers face. We feel strongly that each of these factors come to bear on the complicated task of teaching students to read in the content areas and that none should be ignored as we teach students to learn effectively from their reading.



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Pearson, P. D., & Johnson, D. D. (1978). <u>Teaching reading comprehension</u>.

New York: Holt, Rinehart, & Winston.



Table 1. Possible subquestions to be addressed in describing selected topics

- A. Groups (for example, Abolitionists, Republicans)
 - 1. Who were/are they? (Name, other labels)
 - 2. When did/do they live?
 - 3. Where did/do they live?
 - 4. Why did the group form?
 - 5. What did the group accomplish/contribute?
- B. <u>Cultures</u> (for example, Iroquois Indians, Spanish colonists)
 - 1. What was/is the technology of the culture?
 - a. What tools or machines did/do they have?
 - b. What was/is their food source?
 - c. What clothing did/do they wear?
 - d. What shelter did/do they have?
 - 2. What were/are the institutions of the culture?
 - a. What was/is the family/kinship system?
 - b. What government did/do they have?
 - c. Wha' economy did/do they have?
 - d. What religions beliefs and practices did/do they have?
 - e. How did/do they educate the young?
 - 3. What was/is the language of the culture?
 - 4. What were/are the arts of the culture?
- C. Wars (for example, the American War of Independence, the Korean War)
 - 1. What was the setting of the war (date, place)?
 - 2. Who were the participants in the war?
 - 3. What were the causes of the war?
 - 4. What were the major events of the war?
 - 5. Who were the key people in the war?
 - 6. How was the war resolved?
 - 7. What were other outcomes or effects of the war?

